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09/930,106	08/14/2001	Stephen E. Jones	149148001US1	9880

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EXAMINER	
TSAI, HENRY	
ART UNIT	**PAPER NUMBER**
2181	

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/930,106	JONES, STEPHEN E.	
	Examiner	Art Unit	
	Henry W.H. Tsai	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/20/05* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 13-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 13, line 1, "the programs" lacks proper antecedent basis since it was not mentioned previously.

In claim 14, line 1, "the other mode" lacks proper antecedent basis since it was not mentioned previously.

In claim 15, line 2, "the foreground operating system" lacks proper antecedent basis since it was not mentioned previously. Similar problems exist in the other claims 16 and 17.

Applicant is required to review the claims and correct all language which does not comply with 35 U.S.C. § 112, second paragraph.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under

this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Wooten (U.S. Patent No. 5,832,299) (hereafter referred to as Wooten'299).

Referring to claim 1, Wooten'299 discloses, as claimed, a method in a computer system for executing code during a system management mode interrupt (Virtual System Mode Interrupt, see Col. 15, lines 60-61. Note the Wooten'299's Virtual System Mode is best reasonably and broadly interpreted as the claimed System Management Mode), the method comprising: upon occurrence of a system management mode interrupt (Virtual System Mode Interrupt, see Col. 15, lines 60-61), saving state (such as EIP, and EFLAGS, see Col. 15, lines 36-41, or Col. 16, lines 38-42) of the computer system; switching the computer system to protected mode (see the Wooten'299's protected mode in Fig. 3B, when VSM bit is not set in EFLAGS, see Fig. 2C; or VSM enable bit is not set in VSM enable register 238 see Fig. 2E); executing 32-bit code (note the Wooten'299's protected mode is a flat 32 bit model) that uses a global descriptor table (segment descriptor 402, see Fig. 4) that is different from the global descriptor

table in use when the system management mode interrupt occurred (note the segment descriptor 402, see Fig. 4, will be different when referring to different segments at the different state of the Wooten'299's system before and after interrupt occurrence); and upon completion of the execution of the 32-bit code, restoring (see Col. 18, lines 27-37, regarding restoring the EIP register and the EFLAGS register) the saved state of the computer system; and returning (by IRET instruction, see Col. 18, lines 33-37) restoring from the occurrence of the interrupt.

Referring to claim 5, Wooten'299 discloses, as claimed, a method in a computer system for executing code during a system management mode interrupt (Virtual System Mode Interrupt, see Col. 15, lines 60-61), the method comprising: upon occurrence of a system management mode interrupt (Virtual System Mode Interrupt, see Col. 15, lines 60-61), switching the computer system to another mode (see the Wooten'299's protected mode in Fig. 3B, when VSM bit is not set in EFLAGS, see Fig. 2C; or VSM enable bit is not set in VSM enable register 238 see Fig. 2E); executing code (the code running in the Wooten'299's protected mode) that uses a global descriptor table (segment descriptor 402, see Fig. 4) that is different from the global descriptor table in use when the system management mode interrupt occurred (note the segment descriptor 402, see Fig. 4, will be different

when referring to different segments at the different state of the Wooten'299's system before and after interrupt occurrence).

Referring to claim 18, Wooten'299 discloses, as claimed, a computer-readable medium containing instructions for a system management mode interrupt routine that allows execution of code above a IMB boundary, by a method comprising: saving state (such as EIP, and EFLAGS, see Col. 15, lines 36-41, or Col. 16, lines 38-42) of the processor; switching the processor to protected mode (see the Wooten'299's protected mode in Fig. 3B, when VSM bit is not set in EFLAGS, see Fig. 2C; or VSM enable bit is not set in VSM enable register 238 see Fig. 2E); and before returning from the interrupt, executing code that is stored above the IMB boundary (this is the existing feature when the Wooten'299's system is based on an Intel Pentium processor (as indicated in Col. 4, lines 29-30)).

As to claims 2 and 9, Wooten'299 also discloses: the 32-bit code is an operating system kernel for loading and running programs (since in the Wooten'299's system, the operating system kernel certainly comprises programs for an interrupt handling; and loading and running are the certain operations therein) during the occurrence of the system management mode interrupt.

As to claims 3 and 10, Wooten'299 also discloses: the programs are Windows Portable Executable programs (since Windows

NT operating system is intended to be used in the Wooten'299's system).

As to claims 4, 11, and 21, Wooten'299 also discloses: the computer system is based on an Intel Pentium processor (as indicated in Col. 4, lines 29-30).

As to claim 6, Wooten'299 also discloses: the method of claim 5 including upon completion of the execution of the code, returning (by IRET instruction, see Col. 18, lines 33-37) from the occurrence of the system management mode interrupt.

As to claim 7, Wooten'299 also discloses: the method of claim 5 including:

saving state (such as EIP, and EFLAGS, see Col. 15, lines 36-41, or Col. 16, lines 38-42) of the computer system; and upon completion of the execution of the 32-bit code, restoring (see Col. 18, lines 27-37, regarding restoring the EIP register and the EFLAGS register) the saved state of the computer system; and returning (by IRET instruction, see Col. 18, lines 33-37) restoring from the occurrence of the interrupt.

As to claims 8, and 22, Wooten'299 also discloses: the method of claim 5 wherein the executing executes 32-bit (note the Wooten'299's protected mode is a flat 32 bit model).

As to claim 12, Wooten'299 also discloses: the computer system is based on an Intel-compatible processor (as indicated in Col. 4, lines 29-30).

As to claim 13, as bets understood, Wooten'299 also discloses: the method of claim 5 wherein the programs are selected from the group consisting of a remote console program, a remote boot program, a remote diagnostics program, a remote restart program, and a debugging program (see Col. 19, lines 15-67 and Col. 29, regarding the instruction set formats such as VMOVS; VTOP EAX, memory; and PROBER suitable for the set forth programs).

As to claim 14, Wooten'299 also discloses: the method of claim 5 wherein the other mode is protected mode (see the Wooten'299's protected mode in Fig. 3B, when VSM bit is not set in EFLAGS, see Fig. 2C; or VSM enable bit is not set in VSM enable register 238 see Fig. 2E).

As to claim 15, as best understood, Wooten'299 also discloses: the method of claim 5 wherein the code executes transparently (see Col. 17, lines 39-45) to the foreground operating system.

As to claim 16, as best understood, Wooten'299 also discloses: the method of claim 5 wherein the code executes even if the foreground operating system has crashed or stopped (see

Col. 15, lines 9-67, and Col. 16, regarding the interrupts/exceptions).

As to claim 17, as best understood, Wooten'299 also discloses: the method of claim 5 wherein the code executes when the foreground operating system crashes or stops (see Col. 15, lines 9-67, and Col. 16, regarding the interrupts/exceptions).

As to claim 19, the claim cites the limitation corresponding to that set forth in claim.

As to claim 20, the claim cites the limitation corresponding to that set forth in claim.

As to claim 23, Wooten'299 also discloses: the computer-readable medium of claim 18 wherein the instructions are loaded into system management memory (inside such as memory unit 102, see Fig. 1a) by a BIOS.

As to claim 24, Wooten'299 also discloses: the computer-readable medium of claim 18 wherein the code is loaded into memory from a ROM (110 see Fig. 1A).

As to claim 25, Wooten'299 also discloses: the computer-readable medium of claim 18 wherein the code is loaded into memory from a flash ROM (110 see Fig. 1A, note the ROM can be a flash type).

Response to Amendment

4. Applicant's arguments filed 10/20/05 have been fully considered but they are not deemed to be persuasive.

Regarding the 35 U.S.C. §112, second paragraph problems, Applicant's response has not completely overcome these rejections.

Applicants argue that "Figure 3-9 of page 3-14 describes the meaning of the bits of the EFLAGS register in which bit 31 is indicated as reserved. Wooten makes it clear that SMM is not VSM" (page 8, line 24); "Wooten is suggesting that this reserved bit now be used to indicate that the processor is in VSM. Clearly, if SMM was the same as VSM, then no new bit would need to be defined" (page 9, line2 2-6). Examiner realizes the feature of the Wooten'299's system. However, as set forth in the art rejection above, the Wooten'299's Virtual System Mode is best reasonably and broadly interpreted as the claimed System Management Mode. The System Management Mode is just a name of mode. As indicated in the art rejections, Wooten'299's Virtual System Mode teaches the limitations as the claimed System Management Mode.

In summary, Wooten'299 anticipates the claimed invention.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Henry Tsai whose telephone number is (571) 272-4176. The examiner can

normally be reached on Monday-Thursday from 8:00 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Dov Popovici, can be reached on (571) 272-4083. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to **the TC central telephone number, 571-272-2100.**

7. In order to reduce pendency and avoid potential delays, Group 2100 is encouraging FAXing of responses to Office actions directly into **the Group at fax number: 571-273-8300.** This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2100 will be promptly forward to the examiner.

HENRY W. H. TSAI
PRIMARY EXAMINER
December 23, 2005